Serial No.: 10/669,479
Docket No.: GP-303584

Amendments to the claims

1-12. (Canceled)

13. (Currently Amended) A device comprising an electrochemical cell, said electrochemical cell comprising:

a membrane electrode assembly defining an anode side of said cell and a cathode side of said cell;

a first flow field plate for the cathode side of said cell, said first flow field plate comprising a plurality of first channels separated by first lands; and

a second flow field plate for the anode side of said cell, said second flow field plate comprising a plurality of second channels separated by second lands, wherein

said membrane electrode assembly is interposed between said first and second flow field plates, ~~and~~

a pitch defined by said first flow field plate is less than a pitch defined by said second flow field plate,

at least one of said first and second lands are provided in a pattern of alternating angles in a plane parallel to both said flow field plates, and

said pitch of each said first and second flow field plates is constant.

14. (Original) The device according to claim 13 wherein the pitch defined by said second flow field plate is approximately twice as large as the pitch defined by said first flow field plate.

15. (Original) The device according to claim 13 wherein at least one of said second lands has a cross sectional width wider than a cross sectional width of at least one of said first lands.

16. (Original) The device according to claim 13 wherein said first channels define a cross sectional width approximately equal to a cross sectional width defined by said second channels.

17. (Original) The device according to claim 13 wherein a substantial number of said second lands define a cross sectional width greater than a cross sectional width defined by a substantial number of said first lands.

18. (Original) The device according to claim 13 wherein a substantial number of said second channels define a cross sectional width approximately equal to a cross sectional width defined by a substantial number of said first channels.

19. (Original) The device according to claim 13 wherein a majority of said second lands define a cross sectional width greater than a cross sectional width defined by a majority of said first lands.

20. (Original) The device according to claim 13 wherein a majority of said first channels define a cross sectional width approximately equal to a cross sectional width defined by a majority of said second channels.

21. (Original) The device according to claim 13 wherein substantially all of said second lands define a cross sectional width greater than a cross sectional width defined by substantially all of said first lands.

22. (Original) The device according to claim 13 wherein substantially all of said first channels define a cross sectional width approximately equal to a cross sectional width defined by substantially all of said second channels.

23. (Original) The device according to claim 13 wherein said first and second channels each have a cross sectional width of 1.5 mm or less.

24. (Original) The device according to claim 13 wherein each of said flow field plates have a thickness of 1 mm or less.

25. (Original) The device according to claim 13 wherein a cross sectional width of each said first lands is 1mm or less.

26. (Original) The device according to claim 13 wherein a cross sectional width of each said second lands is about 3 times wider than a cross sectional width of each said first lands.

27. (Original) The device according to claim 26 wherein said first channels define a cross sectional width approximately equal to a cross sectional width defined by said second channels.

28. (Currently Amended) The device according to claim 13 wherein said ~~first and~~ second channels are predominately straight.

29. (Original) The device according to claim 13 wherein said first and second channels each have a depth of about 1 mm or less.

30. (Original) The device according to claim 13 wherein the pitch defined by said first flow field plate is about 2.5 mm or less.

31. (Currently Amended) The device according to claim 13 wherein said device further comprises structure defining a fuel cell of the proton exchange membrane ~~PEM~~-type.

32. (Original) The device according to claim 31 wherein said device further comprises structure defining a vehicle powered by said fuel cell.

33. (Original) The device according to claim 13 wherein said second lands are oriented at an angle to said first lands in a plane parallel to said second flow field plate.

34. (Original) The device according to claim 33 wherein said angle is in the range of 0° to 90°.

35. (Currently Amended) The device according to claim 13 wherein said first and second fluid flow plates lie in substantially parallel planes and said first channels, said first lands, said second channels, and said second lands define respective pitches that ensure at least about 30% land-to-land alignment ~~contact~~ across ~~a surface of a~~ said membrane electrode assembly interposed between said first and second flow field plates.

36. (Currently Amended) The device according to claim 35 wherein said respective pitches ensure at least about 30% land-to-land alignment across said membrane electrode assembly ~~contact~~ regardless of the manner in which said first lands are aligned relative to said second lands.

37. (Cancel)

38. (Currently Amended) The device according to claim 13 wherein both said first and second lands are provided in said pattern of alternating angles and defining ~~each have~~ a wiggle alignment pattern~~, and each said wiggle alignment pattern is in phase respectively~~.

39. (Cancel)

40. (Currently Amended) The device according to claims 33 wherein said ~~first and~~ second channels are predominately straight.

41. (Original) The device according to claims 13 wherein said first and second channels are serpentine.

42. (Currently Amended) A device comprising an electrochemical cell, said electrochemical cell comprising:

a membrane electrode assembly defining an anode side of said cell and a cathode side of said cell;

a first flow field plate for the cathode side of said cell, said first flow field plate comprising a plurality of first channels separated by first lands; and

a second flow field plate for the anode side of said cell, said second flow field plate comprising a plurality of second channels separated by second lands, wherein

———said membrane electrode assembly is interposed between said first and second flow field plates,

———said second channels define a cross sectional width approximately equal to a cross sectional width defined by said first channels,

said second flow field plate defines a ~~channel~~ first pitch substantially greater than a ~~channel~~ second pitch defined by said first flow field plate, and

at least said second lands are formed with a multiple of alternating angles relative to said first lands in a plane parallel to said second flow field plate and said ~~respective channel~~ pitches and cross-sectional widths ensure at least 30% land-to-land alignment across said membrane electrode assembly ~~contact~~ which is insensitive to plate-to-plate positioning and wherein said pitches are constant.

43. (New) The device according to claims 13 wherein each of said first lands periodically aligns across said member electrode assembly only on a respective one of said second lands.

44. (New) The device according to claim 13 wherein said first channels are predominately straight.

45. (New) The device according to claims 33 wherein said first channels are predominately straight.